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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

MCCULLEY, MEGAN CASSANDRA

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1796

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/551,031	Applicant(s) HARA ET AL.	
	Examiner Megan McCulley	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 November 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5, 7-13 and 15-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-13 and 15-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-5, 7, 9, 10, and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Matsumura et al. (JP 2001-294445) when taken with Fang (US 2003/0138731). The English translation of the Japanese document is used for the citations below.

Regarding claims 1, 4, 5, 7: Matsumura et al. discloses a paste (page 2 claim 1) comprising an inorganic filler/powder (page 2 claim 1), a resin (page 2 claim 1) and a solvent (page 14 para. 29). The solvent is gamma-butyrolactone (having a lactone and an ester structure), which has a boiling point above 160 °C, specifically 205 °C, as evidenced by Fang (para. 19). The inorganic filler has a mean particle diameter of 2 micrometers and 0.7 micrometers (para. 27). The content of the solvent in example 1 is calculated to be 21% (page 17 table 1), which overlaps the claimed range. Matsumura et al. teaches the resin can be made from glycidyl acrylate monomers (page 10 para. 20), which makes an epoxy resin, which is a thermosetting resin.

Regarding claim 2: Matsumura et al. teaches the filler can be barium titanate, strontium titanate, calcium zirconate, lead titanate, and lead zirconate (page 2 claim 4).

Regarding claim 3: Matsumura et al. teaches an inorganic filler/powder with a mean particle diameter of 0.5-5 micrometers and another inorganic filler/powder with a

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mean particle diameter of 0.1-1 micrometers (page 3 claims 8 and 9). 5 micrometers is 3 times or more than 1 micrometer.

Regarding claim 9: Matsumura et al. teaches the composition obtained by drying/removing the solvent (page 11 para. 24) and 88.7% of solids in the composition being the inorganic filler, based on calculation of example 1 (page 17 table 1). While Matsumura et al. does not directly teach that the porosity is less than 30% by volume, since all of the components are present in the composition and it is dried in the same manner as the instant invention, it is inherent that the composition would have this property. If it is applicants' position that this would not be the case: (1) evidence would need to be presented to support applicants' position; and (2) it would be the Office's position that the application contains inadequate disclosure that there is no teaching as to how to obtain a composition with this property.

Regarding claim 10: Matsumura et al. teaches a film thickness of 10 microns (page 14, #2 in para. 31).

Regarding claim 17: Matsumura et al. teaches a capacitor with the composition as an insulating layer (para. 2). It is made by heating and drying (para. 24), which would remove the solvent.

Claims 11-13, 15 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Matsumura et al. (JP 2001-294445). The English translation of the Japanese document is used for the citations below.

Regarding claims 11 and 15: Matsumura et al. teaches a composition comprising an inorganic filler/powder (page 3 para. 8), and a resin (para. 6). The inorganic filler/powder has a mean particle diameter of 0.5-5 micrometers and another inorganic filler/powder has a mean particle diameter of 0.1-1 micrometers (claims 8 and 9). 5 micrometers is 3 times or more than 1 micrometer. Matsumura et al. teaches the resin can be made from glycidyl acrylate monomers (para. 20), which makes an epoxy resin, which is a thermosetting resin.

Regarding claim 12: Matsumura et al. teaches the filler can be barium titanate, strontium titanate, calcium zirconate, lead titanate, and lead zirconate (page 2 claim 4).

Regarding claim 13: Matsumura et al. teach the ratio inorganic powder to the whole is 30-50 vol%, which overlaps the claimed range (claim 5).

Regarding claim 19: Matsumura et al. teaches a capacitor with the composition as an insulating layer (para. 2).

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Matsumura et al. (JP 2001-294445) when taken with Fang (US 2003/0138731) as applied to claim 1 above and in further view of Kaneko (JP 2002-226675). The English translation of the Japanese document (JP 2001-294445) and the newly supplied English translation of the Japanese document JP 2002-226675 are used for the citations below.

Regarding claim 8: Matsumura et al. teaches the basic paste composition as set forth above. Not disclosed is the phosphoric ester skeleton. However, Kaneko teaches a dielectric/insulating paste (title) comprising an epoxy resin and inorganic filler (claim 1) and a phosphoric acid ester (claim 1). Matsumura et al. and Kaneko are analogous art because they are both concerned with the same field of endeavor, namely dielectric/insulating epoxy compositions. At the time of the invention a person having ordinary skill in the art would have found it obvious to combine the phosphoric acid ester of Kaneko with the composition of Matsumura et al. and would have been motivated to do so for such desirable properties as increased adhesiveness and heat resistance, as evidenced by Kaneko (para. 14).

Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Matsumura et al. (JP 2001-294445) as applied to claim 11 above and in further view of Kaneko (JP 2002-226675). The English translation of the Japanese document (JP 2001-294445) and the newly supplied English translation of the Japanese document JP 2002-226675 are used for the citations below.

Regarding claim 16: Matsumura et al. teaches the basic paste composition as set forth above. Not disclosed is the phosphoric ester skeleton. However, Kaneko teaches a dielectric/insulating paste (title) comprising an epoxy resin and inorganic filler (claim 1) and a phosphoric acid ester (claim 1). At the time of the invention a person having ordinary skill in the art would have found it obvious to combine the phosphoric acid ester of Kaneko with the composition of Matsumura et al. and would have been

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motivated to do so for such desirable properties as increased adhesiveness and heat resistance, as evidenced by Kaneko (para. 14).

Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Matsumura et al. (JP 2001-294445) as applied to claim 1 above and in view of Ingman et al. (US 2003/0026584). The English translation of the Japanese document is used for the citations below.

Regarding claim 18: Matsumura et al. teaches the basic claimed composition as set forth above and removing/drying the solvent (page 11 para. 24). Matsumura et al. does not teach an optical wire. However Ingman et al. teaches an optical wire/optical fiber made with a resin and containing inorganic filler particles (para. 70). Matsumura et al. and Ingman et al. are analogous art because they are both concerned with the same field of endeavor, namely resin composition comprising inorganic filler particles. At the time of the invention a person having ordinary skill in the art would have found it obvious to combine the optical wire/fiber of Ingman et al. with the composition of Matsumura et al. and would have been motivated to do so because, as Matsumura et al. states, the composition is dexterous and insulating (para. 2), which is needed in optical fibers.

Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Matsumura et al. (JP 2001-294445) as applied to claim 11 above and in view of Ingman et al. (US 2003/0026584). The English translation of the Japanese document is used for the citations below.

Regarding claim 20: Matsumura et al. teaches the basic claimed composition as set forth above. Matsumura et al. does not teach an optical wire. However Ingman et al. teaches an optical wire/optical fiber made with a resin and containing inorganic filler particles (para. 70). Matsumura et al. and Ingman et al. are combinable because they are both concerned with the same field of endeavor, namely resin composition comprising inorganic filler particles. At the time of the invention a person having ordinary skill in the art would have found it obvious to combine the optical wire/fiber of Ingman et al. with the composition of Matsumura et al. et al. and would have been motivated to do so because the composition has improved electromagnetic and thermal asperity characteristics, which is needed in optical fibers.

Response to Arguments

Applicant's arguments filed November 5, 2008 have been fully considered but they are not persuasive, because:

A) Applicant's argument that Matsumura et al. do not disclose a composition containing a thermosetting resin is not persuasive. As evidenced by Toman et al., U.S. Pat. 5,270,416, acrylic resins that are copolymers with glycidyl methacrylate monomers are thermosetting resins that have glycidyl/epoxy functionality (abstract). The acrylic of the example "Joncryn" 611 does not appear to have epoxy functionality. Matsumura et al. however, does disclose an epoxy functional resin since it teaches copolymers with glycidyl acrylate monomers.

B) Applicant's argument that the glycidyl acrylate copolymer of Matsumura et al. is not an epoxy functional polymer since it can be pyrolyzed is not persuasive. It is not clear where in the reference the applicants are referring when they say that the copolymer can be pyrolyzed. However, the reference does state that the copolymer and the other components are uniformly mixed (para. 22), formed and dried and *then* calcined (para. 24). Therefore, the claimed compositions are made before the calcination occurs and the substances "decompose and evaporate" as taught in Matsumura et al., para. 24. Since the copolymer as a glycidyl acrylic resin, therefore with epoxy moieties, exists with the solvent and the filler as a formed composition before the decomposition, the claimed compositions are disclosed.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Megan McCulley whose telephone number is (571)270-3292. The examiner can normally be reached on Monday - Friday 7:30-5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Eashoo can be reached on (571) 272-1197. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mark Eashoo/
Supervisory Patent Examiner, Art Unit 1796

/M. M./
Examiner, Art Unit 1796